Hemerologium Hermeticum

OR, A

MERCURIAL

Calender

OF THE

DIURNAL MOTIONS,

Configurations and Conjunctions of all the Planets in the year of our LORD; 1656.

Being since the Correction of the Roman Calender, by P. *Gregory* 74. years, and it self the Bissextile or Leap-year.

Containing Astronomical calculations of Eclipses, Solar and Lunar, quarterly Revolutions, qualities of the seasons, lunations, mutations of the aire and other things useful and necessary.

Rectified to the Latitude of 52. degrees, yet may indifferently be referred unto any place in Great *Britaine*, or *Ireland*.

By *John Smith*, Philomathist.

London, Printed by *T. R.* and *E. M.* for the Company of Stationers. 1656.

The common Notes and movable Feasts according to the

Julian Account 1656.		Gregorian Account. 1656.
4	Golden number	4
13	Circle of the Sun	13
F. E.	Dominical Letter	B. A.
4	The Epact	4
February 3	Septuagesima	13 February
February 20	Ashwednesday	1 March
April 6	Easter-day	16 April
May 15	Ascension day	25 May
May 25	Whitsunday	4 June
November. 30	Advent-sunday	3 December

The Termes in Law.

Hillary Terme begins *January* 23. ends *February* 12. and hath four Returnes

1 *Octab. Hill.* } { 3 *Craſt. Purif.*
2 *Quind. Hillar.* } { 4 *Octab. Pasch.*

Easter Terme begins *April* 22. ends *May* 17. and hath five Returnes.

1 *Quind. Pasch.* } { 3 *Mens. Pasch.*
2 *Tres Pasch.* } { 4 *Quinq. Pasch.*
5 *Craſt. Ascens.*

Trinity Terme begins *June* 6. ends *June* 25. and hath four Returnes.

1 *Craſt. Trin.* } { 3 *Quind. Trin.*
2 *Octab. Trin.* } { 4 *Tres. Trin.*

Michaelmas Terme begins *October* 23. ends *November* 28. and hath six Returnes.

1 *Tres Mich.* } { 4 *Craſt. Mart.*
2 *Mens. Mich.* } { 5 *Octab. Mart.*
3 *Craſ. Mich.* } { 6 *Quind. Mart.*

The parts of mans body as they are governed by the signes Zodiacall.

♈ Head and face.

♉ Neck and throat.

♋ Breast, stomach & rib

♍ Bowels and belly.

♏ Secret members.

♑ Knees.

♊ Armes and shoulders

♌ Heart and back.

♎ Reins and loynes.

♐ Thighes

♒ Legges.

♓ Pisces the Feet.

Manilius, lib. 5. Cap. 4.

A Vroto Princeps Aries in vellere fulgens,
Respicit admirans adversum surgere Taurum,
Summisso vultu Geminos & fronte vocantem,
Quos sequitur Cancer, Cancrum Leo, Virgo Leonem,
Æquato cum Libra die cum tempore noctis,
Attrahit ardenti fulgentem Scorpion astro,
In cujus Caudam contentum dirigit arcum,
Mixtus equo volucrem missurus jamque Sagittam,
Tum venit Augusto Capricornus sydere flexus,
Post hunc inflexam diffundit Aquarius urnam,
Piscibus assuetas avide subeuntibus aquas,
Quos Aries Tangit claudentes ultima signa.

Thus Englished.

GLittering in's golden fleece, Prince Aries
Looks back, admiring that the Bull he sees
Against him rise, who with low front and face,
Calls to the Gemini to move apace;
These Cancer follows, Loyall Leo then
Pursues the Crab: Virgo (Virgo no Curtizan)

Chaſes the Lion, then (equating night
With day) joyns Libra, drawes the Scorpion bright
With his inflamed glitteting Starre, whoſe taile
The Centaure doth with bowe and ſhaft aſſaile;
Then with his narrow conſtellation he,
We call the Goat comes with a bended knee;
And after him Aquarius who powers
His crooked Lavour forth in golden ſhowers
Upon the Fiſhes, whoſe deſir'd content
Is ſporting in the watry Element;
Theſe finiſhing the number of the Signes,
Aries his Head unto their taile conjoynes.

Names of the Planets and Nodes.

♄ φαίνων, Saturne.	♀ φώσφορ☋, Venus.
♃ φαέθων, Jupiter.	☿ στίλβων, Mercury.
♂ πυρόεις, Mars.	☽ σελήνη, the Moon.
☉ ἥλι☋, Sol.	☊ Dragons head.
	☋ Dragons taile.

The Aſpects Old and New.

Charact.	Names of Aſpects	Diſt. of ſig. & deg.	Several φάσεις. or the Moon.
☌	Conjunction	0 0	*Novilunium*, or the
⚺	Semiſextile	1 0	New Moon.
⚹	Sextile	2 0	*Corniculata*, or the
⚼	Quintile	2 1	horned Moon.
□	Quattile	3 0	*Semiplena*, Moon
Td	Tridecile	3 18	half full of light.
△	Trine	4 0	*Gibboſa*, or the
Bq	Biquintile	4 24	Moon 3 parts light.
☍	Oppoſition	6 0	*Pleniluni*. ful Moon.

January hath xxxi. dayes.

Phœbus and *Jove* are angry, and yet such
Is *Chronos* cheere, he smiles on *Sol*, tis much;
A Protean mixture, when the Moon is new,
Will cause a Protean change of aire, tis true.
But *Jove* and *Mars* shake hands, and will be faire
Ith end, as if this moneth were *May*, tis rare.

1	a	New year	♋	16	●	□ ☉ and ♆	Full moon
2	b	♄ 23 2 ♍	♌	1	16	☽ Perigæon.	eclipsed, 1
3	c	△ ☉ and ♄		16	17	Snowy and	day, 25
4	d		♍	1	18	cold aire, clou-	min. past 8
5	e	☽ with ♄		16	19	dy and slaby.	at night.
6	f	Epiphany	♎	1	20	Windy and	
7	g	♂ ☽ and ♆		14	21	dry frosts,	
8	a	✶ ☿ and ☽		28	22	snow.	Last quar-
9	b	□ ♂ and ☿	♏	11	23		ter, 8 day,
10	c	☉ enters ♒		24	24	But now ✶ ☉	8 min. past
11	d	☽ with ♀	♐	6	25	and ♂ 9 warm	1 after-
12	e	♆ 22 4 ♈		18	26	and yet slabby	noon.
13	f	1 after Epiph	♑	1	27	weather.	
14	g	☽ with ☿		13	28		
15	a	☽ Apogæon.		24	29	A mixture	
16	b	☉ Eclipsed	♒	6	○	this new moon	New moon
17	c	△ ♄ and ☿		18	1	of winds and	16 day, 54
18	d	□ ♆ and ☿		30	2	frost, snow	min. after-
19	e	□ ♄ and ♀	♓	12	3	cold raine.	noon.
20	f	2 after Epiph.		24	4	△ ♆ and ♀	
21	g	♂ 18 34 ♈	♈	6	5	now fairer and	
22	a	☽ with ♂		18	6	more warme	First quar-
23	b	Terme begins	♉	1	7	aire. *Venisti,*	ter, 24 day,
24	c	△ ☽ and ♄		14	8	*sed nihil nunc*	22 min.
25	d	Convers. Paul		27	9	*inveniſti.*	past 1 af-
26	e	✶ ☽ and ♂	♊	11	10	A very gal-	ternoon.
27	f	3 after Epiph.		25	11	lant, warme	
28	g	♀ enters ♈	♋	9	12	and serene aire	Full moon
29	a	□ ☽ and ♆		24	13	ends this and	last day, at
30	b	☿ 12 57 ♒	♉	9	14	begins the	7 morn.
31	c	♂ ♆ and ♂		25	●	next moneth.	

February hath xxix. dayes.

Now *Phœbus* ſmilingly embraces *Jove*:
No wonder why he does ſo much 'tis Love,
Young *Venus* courts old *Saturne* near the change,
That ſhe ſhould be ſo much oreſeer, 'tis ſtrange,
The Sun and *Chronos* frowne, the aire is clad
With cloudy blackneſſe, cold and ſnow, 'tis ſad.

M. D	W. D	Feſtiv. Aſpects & Plan. motiõs	Moon place.		Moon age.		Changes of aire.	Lunations.
1	D	♄ 21 45 ♍	♍	10	16	Let the time	Laſt quar-
2	e	Candlemas		24	17	of the year be	ter, 7 day,
3	f	Septuageſima	♎	9	18	conſidered, and	37. minut,
4	g	☌ ☉ & ♃		23	19	here is very	paſt 3 in
5	a	☌ ♀ & ☽	♍	7	20	warme & fair	the morn.
6	b	☌ ♃ & ☿		20	21	weather.	
7	c	♃ 26 36 ♈	♐	3	22	Then high	
8	D	☌ ☉ & ☿		15	23	winds and rain	
9	e	☉ enters ♓		27	24		
10	f	Sexageſima	♑	9	25	Now ſome	
11	g	☌ ♐ & ☿		21	26	cold aire and	
12	a	Terme ends	♒	3	27	ſnow which	
13	b	☽ Apogæon		15	28	will be waſht	
14	c	Valentine	♓	27	29	away with cold	
15	D	△ ♄ & ☿		9	●	raine, and then	New moon
16	e	♐ 6 4 ♉		21	2	will ariſe cold	15 day, 46
17	f	Shroveſunday	♈	3	3	winds which	min. paſt 7.
18	g	□ ♀ & ☽		15	4	wil bring more	in the
19	a	☍ ♄ & ☿		29	5	ſnow, after	morning.
20	b	♀ 26 ♑	♉	11	6	which fair and	
21	c	☌ ☽ & ☿		25	7	clear weather.	
22	D	♀ 26 43 ♓	♊	7	8		
23	e	□ ♃ & ♀		21	9		First quar.
24	f	Quadrageſima	♋	4	10		23 day, 5
25	g	Matthis Apo.		19	11	But the month	min. paſt 1
26	g	☽ Perigæon	♌	3	12	three laſt dayes	in the
27	a	☌ ♀ & ♀		18	13	there will be	morning.
28	b	☍ ☉ & ♄	♍	3	14	very much	
29	c	☽ with ♄		18	15	ſnow.	

Mars ſmiles on *Saturne*, when Superiours greet
With ſuch kinde words of love and peace, 'tis ſweet;
That *Mars* now *Venus* proffers ſhould refuſe,
The embraces of the Queene of love, 'tis newes.
But ſhe and *Jove* are in a friendly mood,
And mutually ſaluee with ſmiles, 'tis good.

1	D	☌ ☽ & ☿	♎	3	●	Cold winds	Full moon
2	♉	Remigius		17	17	yet pretty fair	firſt day, 5 ☌
3	f	♄ 19 26 ♍	♍	1	18	above headfull	min. paſt 2
4	g	Adrianus		15	19	the ſixth day,	in the mor-
5	a	♃ 1 56 ♂		29	20	the warmer	ning.
6	b	☿ in digr. max.	♐	11	21	with clouds,	
7	c	△ ♄ & ♐		24	22	and ſome raine	Laſt quar-
8	D	△ ♃ & ☽	♑	6	23	probably in no	ter, 7 day,
9	♉	Oculi		18	24	ſmall ſhowers,	5 min. paſt
10	f	☉ enter ♈		30	25	and then faire	8 at night.
11	g	✶ ☿ & ☽	♒	11	26	and ſeaſonable	
12	a	Gregory		23	27	weather; but	
13	b	☌ 23 42 ♂	♓	5	28	now againe	
14	c	☽ Apogæum		17	29	will follow	
15	D	✶ ☌ & ☽		30	●	ſome more ha	New moon
16	♉	Lætare	♈	12	1	ſty ſhowers of	15 day, 36
17	f	☽ with ♃		25	2	raine, after	minuts paſt
18	g	□ ☌ & ♀	♉	7	3	which high	midnight.
19	a	♀ 28 ♒		21	4	wind, and then	
20	b	☽ with ☌	♊	4	5	we ſhall have	
21	c	□ ♄ & ☽		18	6	fair and clear	
22	D	♀ 14 38 ♂	♋	1	7	weather at the	Firſt quar-
23	♉	☌ ☉ & ☿		15	8	moncths end.	ter, 23 day
24	f	☿ oriental		29	9		5 min. be-
25	g	Lady day	♌	13	10		fore 9 in
26	a	☽ Perigeon		27	11		the morn.
27	b	✶ ♃ & ♀	♍	12	12		
28	c	☽ with ♄		27	13		Full moon
29	D	Non omnibus	♎	11	14		30 day, 46
30	♉	Palm-ſunday		25	●		min. paſt
31	f	△ ☽ ☍ ♀	♏	10	16		2 morn.

Aprill hath xxx. dayes.

Saturne and *Venus* now begin to scoule
The aire grows black and wet upon't, tis foule.
Mars thrills his darts at *Chronos* head, and hath
Sworne to controul his privy pranks, 'tis wrath.
Phœbus embraces *Iove* in's armes, no feare
Of gloomy darknesse in the aire, 'tis cleare.

1	g	♄	17	23	♍	23	17	First two dayes	Last quarter, 6 day, 29 min. past 2 afternoon.
2	a	✶	♂	☌	☿	7	18	faire, cloudy	
3	b	△	☉	☌	☽	20	19	cold and great	
4	c	☍	♄	☌	☿	2	20	raine, for a-	
5	d	△	☽	☌	♄	14	21	bout one week	
6	e	Easter day				26	22	pretty fair and	
7	f	☾	Apogeon.			8	23	clear again.	
8	g	♆	9	40	♉	20	24		
9	a	Albinus				1	25		
10	b	☽	with	☿		13	26	10 day clouds,	
11	c	♂	12	27	♊	26	27	and some gen-	
12	d	☽	with	☿		8	28	tle winds, after	New moon 14 day, 32 min. after 2 afternoon.
13	e	1	Sun. aft.	East.		21	29	which some	
14	f	☽	with	♆		4	●	fair weather.	
15	g	Olympia				17	2	Now winds	
16	a	☿	enters	♈		1	3	and raine, and	
17	b	□	♄	and	♂	14	4	perhaps thun.	
18	c	Valerian				28	5	der, cloudy,	
19	d	☽	with	♌		12	6	then very fair	
20	e	2	Sun. aft.	East		26	7	and clear wea-	First quarter 21 day, 4 min. after 4.
21	f	☽	Perigeon.			10	8	ther till this	
22	g	Terme	begins			24	9	moneth:	
23	a	♂	☉	☌	♆	8	10	26 day, clouds	
24	b	☿	18	5		22	11	and rain, much	
25	c	Mark	Evang.			6	12	fair, dry, cold	
26	d	△	☉	and	♄	20	13	weather ends	
27	e	3	sun. aft.	East		4	14	all.	Full moon 28 day, at 1 afternoon.
28	f	Vitalius				18	●		
29	g	✶	♂	and	☿	1	16		
30	a	☌	♂	and	☽	15	17		

May hath xxxi dayes.

The heavens ſmile, the earth looks brave and gay,
Flowers adorne the pleaſant fields, 'tis *May*.
Jove courts old *Saturne*, and that ſober grave
Superiours kiſt by *Phoſphorus*, 'tis brave
From him ſhe paſſes unto *Jove*, and there
They make the heavens ſmile againe, tis faire.

1	♄	May day	♐	27	18	The firſt four	Laſt quar-
2	☾	♄ 16 18 ♍	♑	10	19	dayes fair and	ter, 6 day,
3	☿	☌ with ☽		22	21	cleare.	55 minuts
4	☉	4 ſun. aft. Eaſt.	♒	4	22	Turbulent aire	paſt 8 be-
5	♀	☽ Apogeon.		16	23	with boiſtrous	fore noon.
6	♂	△ ♄ and ♃		28	24	ſhowers of rain	
7	♃	☌ ♄ and ☽	♓	9	25	if not haile,	
8	♄	♃ 16 45 ☌		21	26	now ſome dry	
9	☾	□ ♂ and ☽	♈	4	27	winds, and for	
10	☿	♂ 1 13 ♋		16	28	many dayes	
11	☉	5 ſun. aft. Eaſt.		29	29	fair and ſea-	
12	♀	△ ♄ and ☿	♉	12	30	ſonable wea-	New moon
13	♂	☌ ♂ and ♀		26		ther, after	14 day, 40
14	♃	□ ♄ and ☽	♊	9	1	which over-	m. paſt 1 in
15	♄	Aſcenſion day		23	2	caſt and clou-	the morn.
16	☾	☽ with ♂	♋	8	3	dy, and then	
17	☿	Terme ends		22	4	ſome dry winds	
18	☉	6 ſun aft. Eaſt.	♌	6	5	and againe	
19	♀	☽ Perigeon.		20	6	ſhowers, at	First quar-
20	☿	☿ 11 30 ☌	♍	4	7	laſt very fair	ter, 20 day,
21	♃	☽ with ♄		18	8	clear weather.	21 minuts
22	♄	△ ♃ and ☽	♎	2	9		paſt 9 at
23	☾	☿ 7 55 ♊		16	10		night.
24	☿	△ ♄ and ☿		30	11		
25	☉	Whitſunday	♏	13	12		
26	♀	☌ ☉ and ☿		21	13		
27	♂	□ ♄ and ☿	♐	10	●		Full moon
28	♃	□ ☉ and ♄		23	15		27 day, 36
29	♄	☌ ♃ and ♀	♑	6	16		min. after
30	☾	☿ ☌ and ☽		18	17		midnight.
31	☿	Patronus		30	18		

Chronus and *Mars* agree againe, and ceaſe
Their broiles: a brave thing they intend, 'tis Peace.
Venus and *Saturne* frown, and in diſtaſte
She runs away (enquire not why) 'tis haſte.
Yet their ſour greeting was not all in vaine,
Something their anger does portend, 'tis raine.

1	☉	Trinity	♒	12	19	Expect ſhortly ſome thunder, haile and raine.	Laſt quarter, 5 day, 40 min. paſt 2 in the morning.
2	f	☽ Apogeon		24	20		
3	g	☌ ♄ & ♂	♓	6	21		
4	a	△ ♂ ☽		17	22		
5	b	♄ 16 59 ♍		29	23		
6	c	Terme begins	♈	11	24		
7	d	☌ ☉ & ☽		24	25	Fair and clear brave ſunſhine dry and hot aire producing thunderclaps and raine	
8	☉	1 after Trinity	♉	7	26		
9	f	☽ with ♃		20	27		
10	g	☽ with ♀	♊	4	28		
11	a	☌ ♄ & ♀		18	29		New moon 12 day, 11 min. before noone.
12	b	♃ 14 24 ♉	♋	2	●		
13	c	☽ with ♂		17	1	☽ Perigæon	
14	d	♂ ♀ in ♂	♌	1	2	very windy & ſome hot and warme raine, wet ſtill and a cooler air, fair and very fine wholſome weather, but at the moneths end ſome ſhowers of raine.	
15	☉	2 after Trin.		16	3		
16	f	☌ ♃ & ♀	♍	1	4		
17	g	☌ ♃ & ♂		15	5		
18	a	♂ 26 9 ♋		29	6		First quarter, 19 day, 41 min. after 1 at morn.
19	b	Gervaſius	♎	13	7		
20	c	□ ♄ & ♀		28	8		
21	d	☌ ♄ & ☽	♍	10	9		
22	☉	3 after Trin.		23	10		
23	f	♀ 22 40 ♊	♐	6	●		
24	g	John Baptiſt		19	11		
25	a	Terme ends	♑	2	12		
26	b	☽ with ♋		14	13		Full moon, 26 day, 44 min. paſt 1 afternoone.
27	c	♀ 11 53 ♌		26	15		
28	d	☽ Apogæon	♒	8	16	Peeter Apoſt.	
29	☉	4 after Trin.		20	17		
30	f	☌ ♄ & ☉	♓	2	18		

July hath xxxi. dayes.

The Sun and *Jove* are friends, if *Phœbus* shine
And cheers us with his glorious reyes, 'tis fine:
But after *Venus* and old *Chrone* have met,
They cause a suaden change ith aire 'tis wet:
Yet then do *Mars* and *Hermes* bring compleat
Corne-ripening weather into th' world, 'tis heat.

1	g	♄ 18 41 ♍		♓	14	19	Except some	Last quar-
2	a	☿ Elong. max			24	20	short mixtures	ter, fourth
3	b	△ ☿ & ☽		♈	8	21	and changes	day, 34
4	c	Ulrius			20	22	of aire gene-	min. past
5	d	□ ♂ & ☽		♉	2	23	rally.	5 after-
6	e	♋ after Trin.			15	24		noone.
7	f	☽ with ♃			28	25		
8	g	Chilian		♊	12	26		
9	a	☽ with ♉			26	27	It will be ve-	
10	b	♃ enters ♊		♋	10	28	ry fair cleare	
11		☉ Eclipsed			25	29	and seasonable	New moon
12	d	✶ ☉ & ♃		♌	10	●	for the farmer.	11 day, 52
13	e	♌ 6 after Trin.			25	2		min. past 6
14	f	☽ Perigeon		♍	10	3		afternoon
15	g	✶ ♄ & ☿			25	4	Now rain and	
16	a	♂ 13 55 ♌		♎	9	5	therefore make	
17	b	✶ ☿ & ☽			23	6	your hay whi-	
18	c	Rosina		♏	7	7	lest the Sun	First quar-
19	d	☿ 24 26 ♋			20	8	shines.	ter, 18 day,
20	e	♍ 7 after Trin.		♐	3	9		34 minute
21	f	△ ♂ & ☽			16	10	Faire & hand-	past 9 at
22	g	Mary Magd.			29	11	some weather	morn.
23	a	Apolinus		♑	11	12	now for some	
24	b	☿ 23 5 ♌			23	13	time, and very	
25	c	James Apost.		♒	5	14	scorching hot	
26	d	✶ ♃ & ☿			17	●	till the months	Full moon
27	e	♎ 8 after Trin.			29	16	conclusion.	26 day, 35
28	f	✶ ♂ and ☿		♓	11	17		min. past 4
29	g	☽ Apogeon.			22	18		morning.
30	a	♂ ☉ and ☿		♈	4	19		
31	b	☿ oriental			16	20		

Auguſt hath xxxi. dayes.

What newes when *Sol* and *Hermes* are conjoyn'd?
Sometimes they threaten raine, but now 'tis wind;
But what when *Mars* and *Sol* embrace, ſome wonder?
No, 'tis but what's moſt uſuall now, 'tis thunder.
So *Jove* and *Mars*, and *Venus* by their powers
threaten, and ſomething elſe beſides, 'tis ſhowers.

1	c	Lammas	♈	29	20	The moneth	Laſt quar-
2	d	□ ☽ and ☿	♉	11	21	begins with	ter, 3 day,
3	e	9 after Trin.		24	22	winds.	40 minuts
4	f	♄ 22 4 ♍	♊	7	23	☌ ☉ and ☿	paſt 6 at
5	g	Oſwald		20	24	And its more	morn.
6	a	☽ with ♂	♋	4	25	windy, ſtill	
7	b	✶ ♄ and ☽		18	26	cloudy, and	
8	c	☽ with ☿	♌	3	27	then ſome	
9	d	☽ Perigeon.		19	28	coole blaſts,	
10	e	10 after Trin.	♍	4	●	clouds white	New moon
11	f	☽ with ♄		18	1	and black, yet	10 day, 19
12	g	♃ 4 27 ♊	♎	4	3	little wet,	min. paſt 2
13	a	✶ ♂ and ☽		19	4	lightning, and	at morn.
14	b	Euſebius		3	5	very hot vio-	
15	c	☌ ☉ and ♂	♏	17	6	lent winds.	
16	d	♂ 3 36 ♍	♐	1	7	A ceſſation for	
17	e	11 after Trin.		13	8	a day, and	
18	f	□ ☉ and ♃		26	9	then hot and	Firſt quar-
19	g	□ ♃ and ♂	♑	8	10	windy, yet	ter, 16 day,
20	a	♀ 3 58 ♍		20	11	faire, and then	16 minuts
21	b	□ ♃ and ♀	♒	2	12	raine in ſmall	paſt 7 at
22	c	☽ ☽ and ☿		14	13	drops for ſome	night.
23	d	☌ ♂ and ♀		26	14	three dayes,	
24	e	Bartholomew	♓	1	●	and at laſt ve-	Full moon
25	f	☽ Apogeon.		19	16	ry faire, and	24 day, 39
26	g	✶ ♃ and ☽	♈	1	17	very ſtrong	min. paſt 8
27	a	Gebhard		13	18	windy aire.	at night.
28	b	Dog-day's end.		26	19		
29	c	☿ 4 10 ♍	♉	8	20		
30	d	□ ♃ and ☿		20	21		
31	e	13 after Trin.	♊	3	22		

September hath xxx. dayes.

Many conjunctions in this moneth we finde
Amongſt the Planets in one ſigne, 'tis kinde.
Their various meetings ſignifie no harme,
Though they portend great rain this moneth, 'tis warm.
Theſe kinde embraces note we ſhall be bleſt
With an earth-cheering after-ſpring, 'tis beſt.

1	f	♄ 25 25 ♍	♊	16	23	First day fair,	New moon 8 day, 10 min. paſt 10 morn.
2	g	Veronica		29	24	now raine,	
3	a	♂ ☉ and ♀	♋	13	25	warme and	
4	b	♀ occidental		27	26	wet, very	
5	c	♂ ♃ and ☿	♌	12	27	moiſt, great	
6	d	♂ ♄ and ♀		27	28	and haſty	
7	e	14 after Trin.	♍	12	29	ſhowers,	
8	f	♂ ☉ and ♄		27	●	clouds and	
9	g	♃ 6 19 ♊	♎	12	2	high winds,	
10	a	♂ ♄ and ☿		27	3	with ſome wet.	
11	b	♂ ☉ and ☿	♏	11	4	Then more	First quarter, 15 day, 40 minuts paſt 8 at morn.
12	c	☿ occidental		25	5	high winds,	
13	d	♂ 21 32 ♍	♐	9	6	and wet.	
14	e	15 after Trin.		22	7		
15	f	♂ ♃ and ☿	♑	5	8		
16	g	△ ♀ and ☿		17	9		
17	a	△ ♃ and ☽		29	10		
18	b	△ ☉ and ♃	♒	2	11	Faire and clear	
19	c	♀ 11 16 ♎		22	12	for a few, and	
20	d	☽ Apogeon	♓	4	13	but a few	
21	e	Matthias Apo.		16	14	dayes.	Full moon 23 day, 6 min. paſt 1 afternoon.
22	f	☌ ♄ and ☽		28	15		
23	g	♂ ♄ and ♃	♈	10	●		
24	a	☌ ☿ and ☽		22	17	Now raine	
25	b	☿ 22 47 ♎	♉	5	18	pours it downe	
26	c	Ciprianus		17	19	with great	
27	d	☽ with ♃	♊	1	20	violence	
28	e	17 after Trin.		13	21	for three or	
29	f	Michaelmas		26	22	four dayes, all's	
30	g	☽ with ♉	♋	9	24	fair againe.	

October hath xxxi. dayes.

Come call a Councell, and let's all enquire
Why *Chrome* and *Hermes* wrangle, ſure 'tis ire,
Quench, quench the flames. for now the old device
To kind'e diſcord is in uſe, 'tis lies:
Truth ſuffers martyrdome, the world is bad;
It's cheated, yet it knows not how, 'tis mad.

1	a	Remigius	♋	23	24	A very fine	Laſt quar-	
2	b	♄ 29 13 ♍	♌	7	25	faire and tem-	ter, 1 day,	
3	c	☽ Perigeon.		21	26	perate ſeaſon.	43 min.	
4	d	△ ♃ and ♂	♍	6	27		paſt 3 in	
5	e	18 after Trin.		21	28	Without any	the morn.	
6	f	☽ with ♂	♎	6	29	very great and	New moon	
7	g	☽ with ♀		20	●	remarkable	7 day, 21	
8	a	☽ with ☿	♏	5	1	change or mu-	min. paſt 7	
9	b	♃ 5 14 ♊		19	2	tation.	at night.	
10	c		♐	4	3			
11	d	✶ ☉ and ☽		17	4		Firſt quar-	
12	e	19 after Trin.	♑	1	5	Perhaps now	ter, 15 day,	
13	f	☽ with ♌		13	6	ſome ſmall	23 min.	
14	g	Calixtus		25	7	raine.	paſt 2 in	
15	a	♂ 12 17 ♎	♒	7	8		the morn-	
16	b	□ ☿ and ☽		9	9	Fair and clear	ing.	
17	c	☽ Apogeon.	♓	1	10	aire.		
18	d	Luke Evang.		13	11			
19	e	20. after Trin.		25	12	Now ſome	Full moon	
20	f	☿ 20 ♏	♈	6	13	high windes	23 day, 20	
21	g	Urſula		18	14	bluſter, and	min. paſt 5	
22	a	✶ ♃ and ☿	♉	1	●	blow up ſome	in the	
23	b	Terme begins		14	16	clouds and	morning.	
24	c	☌ ♄ and ☿		27	17	blackneſſe,		
25	d	☽ with ♃	♊	10	18	which will		
26	e	21 after Trin.		23	19	drop downe	Laſt quar-	
27	f	☿ 7 38 ♐	♋	6	20	raine in ſober-	ter, 30 day,	
28	g	Simon & Jude		20	21	ſadneſſe.	16 min.	
29	a	✶ ♄ and ☿	♌	4	22		paſt noone	
30	b	☌ ♃ and ☿		18	23	Fair and clear		
31	c	☽ Perigeon.	♍	2	24			

November hath xxx. dayes

Should we enquire whence Powder-plots do come,
This moneths fifth day points to the place, 'tis *Rome*.
Enquire we where's the seat of mercy, where
The Throne of Justice? Look to Heaven 'tis there,
Then be we thankful, and not seek to raise
Remembrance of our mercies out, 'tis base.

1	D	All Saints	♍	16	25	Obscure, and	New moon
2	E	22 after Trin.	♎	1	26	thick clouds	6 day, 42
3	f	△ ♄ and ♃		15	27	dark aire and	min. past
4	g	☽ with ♂		29	28	cold, cold, cold	6 in the
5	a	Powder-plot	♏	14	29	weather, and I	morning.
6	b	☌ ♃ and ☽		18	●	think somthing	
7	c	☽ with ♀	♐	12	2	like snow, but	
8	D	♂ ♀ and ☿		25	3	what if it prove	
9	E	23 after Trin.	♑	8	4	cold raine?	
10	f	□ ♂ and ☽		21	5		
11	g	♃ 1 29 ♊	♒	3	6		
12	a	☌ ☉ and ♃		15	7	Fair, clear, and	First quar-
13	b	♃ occidental		27	8	warme, cloudy	ter, 13 day,
14	c	✶ ☉ and ♄	♓	9	9	cold and snow-	51. min.
15	D	☽ Apogeon.		21	10	like weather.	past 10 at
16	E	24 after Trin.	♈	3	11		night.
17	f	♂ ☉ and ☿		15	12	Windy and	
18	g	☿ oriental		27	13	moist, wet and	
19	a	✶ ♄ and ☿	♉	10	14	cold, and slab-	
20	b	♂ 6 1 ♍		22	15	by, as if it were	Full moon
21	c	☽ with ♃	♊	6	☁	(as it is now)	21 day, 43
22	D	♀ 1 19 ♐		19	17	winter.	min. past 8
23	E	25 after Trin.	♋	3	18		at night.
24	f	☌ ♃ and ☿		16	19	Windes and	
25	g	□ ♄ and ♀	♌	1	20	snow, or very	
26	a	☿ ☌ 8 29 ♐		14	21	cold raine;	
27	b	☽ Perigeon.		29	22	slabby and wet	Last quar-
28	c	Terme ends	♍	13	23	at length some	ter, 28 day
29	D	☌ ♃ and ☿		27	24	high winds.	8 min. past
30	E	Advent-sund.	♎	11	25	Andrew Apost	8 at night.

December hath xxxi. dayes.

I had some newes to tell, but now the nose
Of my cold Pen will write no more, 'tis froze:
This winter weather hath congeal'd my inke,
Yet that's not all, beleeve me no, 'tis hinc.
When to say more to you, prepar'd were we,
Apollo stept and stopt our pen, 'tis he.

1	f	♄ 4	54	♎	25	26	Cloudy and	New moon
2	g	☌ ♂ and ♀		♏	9	27	some remission	5 day, 42
3	a	☽ with ♀			23	28	of cold, yet	min. past 8
4	b	♃ 28	33 ♊	♐	6	29	some snow,	at night.
5	c	☽ with ♉			20	●	cloudy and	
6	d	□ ♄ and ☽		♑	3	1	cold, and some	
7	e	2 Advent.			16	2	dry frost.	
8	f	☌ ♄ and ♀			29	3	Stil frosty and	
9	g	♂ 18	40 ♏	♒	11	4	cold.	
10	a	□ ♃ and ☽			23	5		
11	b	Damassus		♓	5	6	Fair and clear	First quar-
12	c	☽ Apogeon			17	7	melting away	ter, 13 day,
13	d	△ ♃ and ♀			29	8	the frost.	36 minuts
14	e	3 Advent.		♈	11	9		past 8 at
15	f	♀ enters ♒			23	10	Great snow	night.
16	g	□ ☉ and ♄		♉	5	11	falls and lies,	
17	a	☽ with ♃			18	12	and is follow-	
18	b	△ ♀ and ☽		♊	1	13	ed with more	
19	c	△ ♄ and ☿			14	14	winds & snow,	Full moon
20	d	☽ eclipsed			27	15	some little re-	21 day, 36
21	e	Thomas Apo.		♋	11	16	mission and	min. past
22	f	☌ ♃ and ♂			26	17	mitigation of	10 before
23	g	☌ ♀ and ☽		♌	11	18	the cold for a	noone.
24	a	☽ Perigeon.			25	19	few dayes if	
25	b	Nat. Dom.		♍	9	20	you sit by the	
26	c	Stephen			24	21	fire.	
27	d	John Evang.		♎	8	22		Last quar-
28	e	Innocents			22	23	Winds and	ter, 28 day
29	f	□ ♄ and ☿		♏	6	24	snow near this	34 minuts
30	g	☿ 6	37 ♑		19	25	years end.	past 4 in
31	a	☽ with ♀		♐	3	26		the morn.

SMITH. 1656.

A PROGNOSTICATION for the Year 1656, being *Leape-Yeare.*

Containing a briefe Chronography of the Quarterly Revolutions, with generall Types of Eclipſes Solar and Lunar, and particular Calculations of thoſe that ſhall happen this preſent Year, both within and without our Horizon.

With an account of other things uſefull and neceſſary.

Calculated to the Elevation of the Pole Artick, 52 Degrees.

By JOHN SMITH *Aſtrophiliſt.*

Hee hath given mee knowledg of the circuits of Years, and the poſitions of Stars. Wiſd. 7. ver. 17, 19.

LONDON.
Printed by *T. Maxey* for the Company of STATIONERS.

The Radices of the middle motion of the Planets January 1. at noon, for the latitude of 52 degrees.

	S.	G	M	sec
Progressio primæ stellæ Arietis à vero verno Equinoctio.	00	28	23	42
Longitudo media Solis	9	20	38	2
Apbelion Solis.	3	6	39	58
Longitudo media Saturni	5	11	20	20
Apbelion Saturni	8	27	13	36
Nodus ascendens Saturni.	3	21	5	39
Longitudo media Jovis	1	00	42	31
Apbelion Jovis	6	08	49	25
Nodus ascendens Jovis.	3	05	37	55
Longitudo media Martis	1	04	47	51
Apbelion Martis	5	00	06	50
Nodus ascendens Martis.	1	17	23	28
Longitudo media Veneris	04	16	54	56
Apbelion Veneris	10	05	12	40
Nodus ascendens Veneris.	02	13	32	24
Longitudo media Mercurii	6	14	46	57
Apbelion Mercurii	8	14	23	58
Nodus ascendens Mercurii	1	13	52	30
Longitudo media Lunæ	3	18	08	53
Apbelion Lunæ	10	07	08	59
Nodus ascendens Lunæ.	9	27	46	09

Felices Animæ quibus hæc cognoscere primum
Inque domus superûm scandere cura fuit:
Credibile est Illos pariter vitiisque jocisque
Altius humanis exeruisse caput.

Blest Souls, who first of all these motions knew,
And leaving Earth, to heavenly mansions flew:
'Tis to be thought, their sacred Heads did higher
Then common vices and delights aspire.

An Almanack for ten years now beginning Anno 1656. shewing the Dominical Letter, Prime, Epact, and other movable Feasts.

The year of our Lord.	Dominical Letter.	Prime.	Epact.	Shrove Sunday.	Easter day.	Rogation Sunday.	Asention day.	Whitsun-day.	Advent Sunday.
1656	F E	4	14	Fe17	Ap. 6	Ma.11	M.15	M.25	N30
1657	D	5	25	8	M.29	3	7	17	29
1658	C	6	6	21	Ap11	16	20	30	28
1659	B	7	17	13	3	8	12	22	27
1660	A G	8	28	Mar4	22	27	31	Ju10	De.2
1661	F	9	19	Fe24	14	19	23	2	1
1662	E	10	20	9	M.30	4	8	M.18	N30
1663	D	11	1	Mar1	Ap19	24	28	Ju. 7	29
1664	C B	12	12	Fe21	10	15	16	M.26	27
1665	A	13	23	5	M.26	A.30	4	14	De.3

The use of this Table.

Having found the year of our Lord in which you desire to know any of the vulgar notes or movable Feasts in the first column, you may right against it in all the other under their severall heads find your desire.

Example.

In the year 1657 the Dominical letter is D. Prime 5. Epact 25. Shrove Sunday *February* 8. Easter day *March* 29 and so forward in all the rest for that or another year.

Thus may you Antedate the backward year,
And make the time before it comes, appear.

A Table of all the *Shires*, with the number of *Parishes* contained in every shire in *England*; and the number of shires allotted to each Circuit of the Reverend Judges of this Nation.

Shires	Parishes	Shires	Parishes
Barkshire	140	*Monmouth*	127
Bedfordshire	116	*Norfolk*	660
Buckingham	185	*Northampton*	320
Cambridg	163	*Northumberland*	168
Cheshire	68	*Nottingham*	168
Cumberland	58	*Oxfordshire*	280
Cornwall	161	*Richmond*	104
Derbyshire	106	*Rutland*	47
Devonshire	394	*Shropshire*	170
Dorsetshire	248	*Somerset*	385
Essex	415	*Southampton*	253
Glouceſter	280	*Staffordshire*	130
Hartford	120	*Suffolk*	575
Hereford	176	*Surrey*	140
Huntington	78	*Sussex*	312
Kent	398	*Warwick*	158
Lancashire	36	*Westmerland*	26
Leiceſter	200	*Wiltshire*	304
Lincolnshire	630	*Worceſtershire*	152
Middleſex	73	*Yorkshire*	459

Number of { Shires 40 / Parishes 8983 }

The

The severall Assize Circuits.

The first Circuit (beginning with the West) comprehendeth the Counties of Wilts, Somerset, Devon, Cornwall *and* Southampton.

The second containeth the Counties of Oxford, Berks, Glouceſter, Monmouth, Hereford, Worceſter, Salop *and* Stafford.

The Third containeth the Counties of Surrey, Suſſex, Kent, Eſſex *and* Hartford.

The Fourth conſiſteth of the Shires of Buckingham, Bedford, Huntingdon, Cambridg, Norfolk *and* Suffolk.

The Fifth, of the Shires of Northampton, Rutland, Lincoln, Nottingham, Derby, Leiceſter *and* Warwick.

The ſixth and laſt, of the Shires of York, Durham, Northumberland, Cumberland, Weſtmorland *and* Lancaſter.

The Number of Shires in theſe ſix Circuits are but 38. *for there are two ſhires exempted; the firſt* Middleſex, *becauſe of its vicinity to* London. *The ſecond exempted is* Cheſhire, *becauſe it is a Countie Palatine, and therefore hath peculiar Iudges and Counſellors to it ſelf.*

Ratio eſt vita Legis.

Of the Year in generall, and the four Seasons into which it is divided. With the reason why this year is called Bisſextile, or Leap-year.

The Year was by the ancient Romans called *Annus, quaſi Annulus*, becauſe (as the Greek word ſignifies, *viz.* Ἐνιαυτὸς) ἐν ἑαυτῷ ἐστι, *in ſe convertitur Annus*; which was the reaſon why the Egyptians in their myſticall cyphers did uſe the picture of a Serpent having his tail in his mouth, to ſignifie a Year: they ſometimes called it *Annus vertens, à vertendo*, becauſe it is always turning and running about.

The time or ſpace of this year hath been diverſe, according to the diverſity of Nations; Some allowing no more dayes to a year then we do to a month, and thence came *Annus Lunaris*; ſome allowed four, ſome ſix months to a Year; and *Romulus* allowed ten months, containing three hundred and four dayes; after him *Numa* (or as ſome ſay, *Tarquinius Priſcus*) added fifty one dayes to the Year, and divided it into twelve months, beginning at *January*; but this yeat being too ſhort to be meaſured by the Suns motion, and ſo cauſing much confuſion, at laſt *Julius Cæſar* (to avoid it) added ten daies more to the former year as *Numa* had conſtituted it: Yet this would not do neither, becauſe the Suns Periodicall motion is not finiſhed but in Three hundred ſixtie five dayes ſix hours; and therefore leſt thoſe odd ſix houts ſhould breed diſorder in computations, he therefore appointed that every fourth year an whole day ſhould be added to *February*, inſerting it next after the three and twentieth day, and the day following was alwaies the ſixth of the Calends of *March*; and therefore becauſe of the interpoſition of that day, they called the year *Annum Biſſextilem*, or that year wherein there fell out two dayes which they called

Sexti.

Sext. Calendas Martii. This computation agreeing with the equal Aſtronomical, Tropical year, we receive at this day in our Account, and call our year *Annum Julianum.*

So much of a Year in Generall: Now of its ſeverall Quarters, And

Firſt of the SPRING.

Equinoctium Vernum, the Vernall Equinox or Spring-quarter is the firſt part of the Tropicall yeare, deſcribed by the Suns motion from the firſt point of *Aries* to his arrivall at the Tropick of *Cancer.* This ſeaſon is a good friend to Nature. Its temper is hot and moiſt; the air is temperate, and the ſeaſon comfortable: Its called *Ver*, ſay ſome, *à vivendo*; others *à veniendo*; but *Iſidorus* à *virendo*; for now *omnia virent.*

Verè novo lætis decorantur floribus arva.

The whole ſurface of the Earth is now covered with greenneſſe, and all things now break out into flouriſhing: For

Titan *doth by his preſence now revive*
Things ſenſible, as well as vegetive.

It initiates this preſent year,

	h.	m.	
March 9.	7.	34	*Tempus medium*
	7.	34	*Tempus apparens.*

Of the SUMMER *Quarter.*

Solſtitium Æſtivum, or the Summer begins when the Sun enters into that ſcorching Tropick of *Cancer*; and therefore its called *Æſtas ab æſtu*, that is, à *calore*; becauſe of its exceeding great heat: for as the Poet ſings ſomwhere, *Scindit agros Æſtas Phœbeis ignibus ardens.* Others call it Summer, becauſe wee have *plus Solis*, more Sun then at other times:

Phœbus doth now continue longer here
Then he abides i'th' neather Hemisphere.

So that it must needs be hotter, because continuance of Action doth necessarily add force of operation to all natural Agents; and so the suns great stay above the Horizon (the quantity of his beams being greater and more perpendicular) must needs cause greater heat.

Summer begins this year

June the 10th { h. m. 10 35 *Tempus medium.* / 10 35 *Tempus apparens.*

Of the HARVEST *Quarter.*

Autumnal Æquinoctial, or the Harvest Quarter is that space of time wherein the sun passes through *Libra*, *Scorpio* and *Sagittary*. Its called *Autumne* (saies *Festus*) *ab augendo*, from the increase of things gathered this season.

It initiates when the sun entering that Æquinoctiall signe *Libra*,

——— ——— *Lest Time should fail,*
Weighs out the dayes and nights in equall scale.

It breeds the most acute and corrupt diseases (say Physicians) for such reasons as these:

1. Because by the force of heat the season preceding, the powers of nature are debilitated.

2. Because the fruit abounding and eaten this Quarter procreates many ill humours.

3. Because by the often changes of heat and cold, happening much in this season, the temper of the season is very unequal, from which many evill humours are stirred up; Hence the Poet *Ovid*,

Cum modo frigoribus premimur, modo solvimur æstu,
Tempore non certo corpora languor habet.

4. Because by the heat of the precedent season, many vitious humours are as it were setled in the body.

5. Because by reason of the ambient cold which now both morning and evening increaseth, those vitious humours begin at length to strike into the inward parts of the body; But for the particular diseases men are subject to at this time, see *Hyp sect.* 3. *Aph.* 21.

This Quarter begins

		h.	m.		
Septemb. 12	{ 1	31 }	afternoon	{ *tempus medium.*
	{ 1	36 }		{ *tempus apparens.*

Of WINTER.

Hyems, or Winter, is the fourth part of the Tropical year, circumscribed by the Tropick of *Capricorn* and the the Vernal Equinox; containing that space of time, in which the sun makes his progress from the beginning of the one to the first point of the other; and its called *Hyems*, *παρὰ τὸ ὕω*, to rain: Its temperament is cold and moist.

Frigidus Hiberna & gravidus nive nubilus æther;

For indeed during this season,

Phœbus *withdrawes his lustre, and his rayes*
He but obliquely on the earth displayes.

And if we consider beside, that the air's crassitude is greater, and the quantity of beams fewer, we shall see reason enough why it is colder this quarter then at other times. It initiates this year

		h.	m.		
Decemb. 11	{ 13	05 }	afternoon	{ *tempus medium.*
	{ 13	06 }		{ *tempus apparens.*

Its usuall diseases are recited by *Hypocr. sect.* 3. *Aph* 23. A cold season it will be; and therefore the Poets counsell is good, —— *Lignum super foco large reponite:* And there I leave you.

A Table of Suns setting for every other day in the year.

Da.	Janu.	Febru.	March	April	May	June
1	3 57	4 47	5 44	6 46	7 40	8 13
3	3 59	4 52	5 48	6 50	7 43	8 14
5	4 1	4 54	5 52	6 54	7 46	8 14
7	4 3	4 58	5 56	6 58	7 49	8 15
9	4 5	5 2	6 0	7 2	7 52	8 15
11	4 7	5 6	6 4	7 6	7 54	8 15
13	4 10	5 10	6 8	7 9	7 57	8 15
15	4 12	5 14	6 12	7 13	7 59	8 15
17	4 15	5 18	6 16	7 16	8 2	8 14
19	4 18	5 22	6 20	7 20	8 4	8 14
21	4 22	5 26	6 24	7 24	8 6	8 13
23	4 24	5 30	6 28	7 27	8 8,	8 12
25	4 28	5 34	6 32	7 31	8 9	8 11
27	4 35	5 38	6 36	7 34	8 11	8 9
29	4 39	5 42	6 40	7 37	8 12	8 7

Da.	July	Auguſt	Septem	Octob	Novē.	Dec.
1	8 4	7 20	6 20	5 22	4 24	3 48
3	8 2	7 16	6 18	5 18	4 21	3 47
5	8 0	7 13	6 14	5 14	4 17	3 45
7	7 58	7 9	6 10	5 10	4 15	3 45
9	7 56	7 6	6 6	5 6	4 12	3 45
11	7 54	7 2	6 2	5 2	4 9	3 45
13	7 52	6 59	5 58	4 59	4 6	3 45
15	7 48	6 55	5 54	4 50	4 3	3 46
17	7 44	6 52	5 50	4 51	4 1	3 46
19	7 42	6 48	5 46	4 47	3 58	3 48
21	7 38	6 44	5 42	4 43	3 56	3 49
23	7 36	6 40	5 38	4 39	3 54	3 51
25	7 34	6 36	5 34	4 35	3 52	3 53
27	7 31	6 32	5 30	4 31	3 50	3 55
29	7 26	6 28	5 26	4 28	3 49	3 57

The

The use of this Table for the Suns setting.

Of the suns periodical motion we spake before; now it concerns us to speak of his diurnal motion; for this is that distinguisheth the yeer into dayes, and a day is the time ascribed thereby, viz. *Diurno motu Solis.* Now the sun accomplisheth this motion either onely in the Diurnal Arch, or in the whole Circle. Hence a day is either naturall or artificial. A day natural called by the Greeks νυχθήμερον, that is, a night and a day; is that space of time wherein the Sun runs his whole diurnal circle, from the East by the West to the East again; and it alwaies contains four and twenty hours, by some authors called *Dies civilis.* But an artificial day is that part of time which is opposed to the night, and it is that space of time wherein the sun raising his diurnal arch, produceth a day, which is from his rising to his setting; both which, with the length of the day, may be by the precedent Table thus found. Enter the first column with the day of the month, and in the other columns under the month proposed you may have your desire; and if you look for the suns setting on any intermediate day, see the increase or decrease of two days, and make substraction of half the increase or decrease, as occasion serves, and the time of sun-setting will emerge; which time substracted from 12 hours, gives you the true time of sun rising: For

So many minutes as the sun setteth after 8 7 6 5 4 3.
So many minutes he riseth before 4 5 6 7 8 9.

The artificiall day is equall or unequall with the night; and to know when it is equal, when unequal, you may double the hours and min. of suns setting, and it gives you the length of the day; and double the hours and minutes of sun rising, you have the length of the night; either of which known, you need not be told whether they are equal or not.

Of the Equation of Naturall dayes.

As the artificial, so the natural day is both equall and unequall

inequall. The equal are the mean days, consisting of one whole Revolution of the Æquator, and an additament of so much time as is answerable to the mean motion of the sun in one day, that is, 59 min. 8 seconds, 19 thirds, 45 fourths.

The inequall are the true or apparent dayes, which consist of so much time as the Revolution of the Æquator is made in, with an additament of so much time as agrees to the true motion of the sun in one day.

The inequality therefore of these dayes ariseth from this inequal additament; and that for these two causes.

1. The inequality of the suns motion in the Ecliptick; for the sun being moved excentrically, it happens that in equal spaces of time he describes inequal Arches in the Ecliptick; and therefore it must needs follow, that the ascensions of the Æquator, or additaments agreeing thereto must needs be unequall also.

2 The obliquity of the Zodiack, which causeth an inequality or difference, both in a right and oblique sphear, betwixt the right ascensions of the Æquator and Zodiack.

Hence the difference between an apparant, and a mean or equall day, is called the æquation of dayes; because by this æquation the natural or mean dayes are converted into the true or apparent.

As a demonstration of the first reason, may be urged that experience wee have of the sun, who runs through the six Northern signes in 186 days and about six hours, when he marches through the six Southern signes in lesse time, viz. 178 dayes and 22 hours. But these things, because they are not of common use, I forbear further to inlarge.

Of Eclipses Solar and Lunar.

AN ECLIPSE is denominated from its subject, either Solar or Lunar; for if it be an obscuration of the suns

light, it is called Solar: and if a privation of light in the Moon, then its called a Lunar Eclipse.

A Solar Eclipse is Obscuratio solis apparens *&c. An apparent obscuration of the sun, whereby his light is averted from our eyes, caused by the moon interposing betwixt our sight and the sun.*

This Definition containes the whole nature of a Solar Eclipse: And to understand it, you must consider,

1. *That it is called an apparent obscuration, because there cannot naturally happen an obscuration properly so called, which is a privation of light, in the sun.*

2. *Its called an aversion of light; for the suns light is not obscured really; but only the vibration of it unto us is hindered by a dense body coming between.*

3. *Its caused by the interposition of the moon betwixt our sight and the sun; for the moon being a dense body, it happens that when she passes betwixt our sight and the sun, according to a right or diametrical line, the suns resplendent face is hid from our sight, and so that fountain of light seems to be obscured.*

From these Premises wee infer these two Conclusions.

First, *That there cannot happen an Eclipse of the Sun, but at a new moon; for then onely is the moon conjoyned with the sun, and so the suns light can at no other time be averted from us.*

Secondly, *This cannot happen but when the moon is diametrically (or very near it) interposed betwixt our sight and the sun; for unlesse the moons body be betwixt our sight and the sun (which happens not at every conjunction, because that conjunction may not be neer the Nodes, commonly called the head and tail of the Dragon) the suns light cannot then be hid from us. Hence the reason is easily discovered, why at every new moon there is not an Eclipse; viz. because some conjunctions happen nearer, some further from these points. But this subsequent type discovers all plainly.*

A Type of Solar Eclipses.

In this Diagram A doth repreſent the ſuns body. D denotes the moon. B, C, E and F are the earth; ſo that it appears, that to him who inhabits that part of the earth where C ſtands, the whole body of the ſun is eclipſed; but to him whoſe habitat. is where B ſtands, half the ſuns body only is hid from his ſight: and as for him who is ſituate where E ſtands, there no part of the ſuns body is hidden from him. Whence you may conceive, that no ſolar eclips can be univerſal.

The Rules to know when the ſun will be eclipſed are theſe two. 1. If the middle motion of the moons latit. at the time of the middle conjunction of the Luminaries be diſtant from the north Node, which is the Dragons tail, leſs then 20 deg. 40 m. or from the ſouth Node or Dragons head leſs then 11 d. 22 m. there may be a ſolar eclipſe at that conjunction or new moon. The 2d Rule is this; If the apparent latitude of the moon at the time of the viſible conjunction of the ſun and the moon be leſſe then the ſum of the ſemidiameter of the luminaries, the ſun will be eclipſed; but if it it be greater, there will not be an eclipſe of the ſun at that time. Let none be ſo fooliſh hereafter, as to parallel any natural eclipſe of the ſun with that great eclipſe at the death of our Saviour; For that was ſupernatural, as appears; 1. Becauſe it was at the full moon, *Mar.* 15. 2. It was univerſal. 3. It continued three hours; all which prove it miraculous.

Of

Of Lunar Eclipſes.

A Lunar Eclipſe is a privation of the ſuns light in the moon, cauſed by the diametricall interpoſition of the earth betwixt the ſun and moon: from which definition obſerve, 1. In that a lunar Eclipſe is called privation, it is no other then a reall paſſion, whereby light (the borrowed quality) is expelled from its ſubject the moon; and a privation of that light (which is darkneſſe) covers her face, diverſe from that which happens in an eclipſe of the ſun, where the ſubject is not deprived of light, but we of the ſight of it: for though the native light of the ſun cannot be expelled from him, but onely averted from us; yet the borrowed light of the the moon may, by the interpoſition of an opacous body. 2. Wee obſerve, that this depriving the moon of her borrowed light, happens onely by the interpoſition of the earth betwixt the ſun and moon. From theſe premiſes we alſo infer two concluſions.

1. That an eclipſe of the moon happens not *niſi in oppoſitione Solis & Lunæ*, but at an oppoſition of Sol and Luna, or more plainly at a full moon: becauſe then onely the earth can be ſo interpoſed betwixt them.

2. That a lunar eclipſe cannot happen *niſi diametraliter inter Solem & Lunam Terra interponitur*, but when the earth is diametrically interpoſed betwixt the ſunne and moon, which is not at every full moon.

It is further to be obſerved, That this interpoſition of the earth is either exactly diametricall, which is, when a right line may be drawn by the Center of the three Bodies of the Sun, Moon and Earth, which begets a totall eclipſe: Or not exact, which is, when the Diameter runs not thorow the centers of theſe three Bodies, yet not farre from them, which begets for the moſt part a partiall Eclipſe, when ſome part of the moons body is illuminated by the ſun: But to underſtand all, behold the following Figure.

A Type of the Lunar Eclipses.

In this Diagram you may obſerve what's my meaning in the precedent diſcourſe of lunar Eclipſes; for here you have the ſuns body at the top, and the earth in the midſt, with the moon, as ſhe may be poſited in three ſeveral plenilunes; that in the midſt ſhewing her poſition when her eclipſe is totall, the earth being then diametrically interpoſed betweene her and the ſun: that on the left hand preſenting you with her ſight at ſuch a full moon when ſhe ſuffers no eclipſe at all; and the third on the right hand demonſtrating her poſition when the eclipſe is but partial; and withall take notice, that this difference ariſeth principally from her greater or leſſer latitude, or her proximity and remoteneſs from the ecliptick line at the time of the oppoſition, or full moon; for its very true, that *ſtati atque menſtrui non ſunt utrique defectes propter obliquitatem ſigniferi lunæque, &c.* The Rules to know when an eclipſe of the moon will happen, are theſe; 1. If at the time of the mean oppoſition or full moon, her middle place be diſtant either from the dragons head or dragons tail, leſſe then 15 deg. 12 min. either according or contrary to the ſucceſſion of ſigns, that full moon will be eclipſed. 2. If at the time of the the true full moon her latitude be leſſe then the ſum of her ſemidiameter and the earths ſhadow, that full moon will ſuffer an eclipſe; but if if it be greater, ſhe cannot be eclipſed.

Theſe things premiſed, wee proceed to conſider of Eclipſes happening this preſent year, as followeth.

Of

Of Eclipses that happen within and without our Horizon this present year.

THose great Lights of the world shall five times this year be eclipsed; twice the Sun, and three times the Moon; yet the inhabitants of *Europe* shall see onely two of them; one of the Sun, and the other of the moon, and they the former of these Eclipses.

Viz.

First, wee shall (if foul weather do not hinder) see the Moon eclipsed the first night of her appearance this year in our sight, *viz. Jan.* the first in the evening.

The beginning of the Eclipse will be at 49 minutes past 6 at night.

The greatest obscuration wil be at sixteen minutes past 8 of the clock.

The end will be at 53 minutes past nine.

So that the totall duration of this defection will be just three hours and four minutes.

It will be a very great lunar Eclipse; for the digits eclipsed will be almost eleven. It happens in the 22 degree of that cold and moist sign *Cancer*: and the moon at the middle time of it will be in the eleventh house of the heavens, whither ♃ (lord of the fourth, seventh and partly of the eighth houses) beholds her from the cusp of the third house with a quadrate aspect. Before its effects are accomplished, there may be hot work among the Water-rats

Secondly, wee shall see no contemptible Eclipse of the Sun, *January* the sixteenth in the afternoon; wherein the digits eclipsed will be almost nine; so that neer three quarters of the Suns glorious body will be obscured, and hid from our sight.

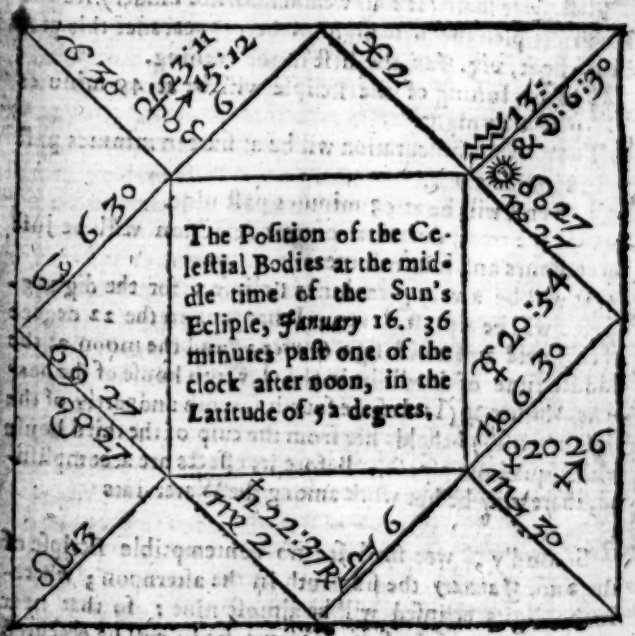
The beginning of this Eclipse will be at 48 minutes pa noon.

The middle will be at 37 minutes past one:

And the end will be about 8 minutes past three of the clock after noon.

So that its whole continuance will be two hours and twenty minutes.

It happens in the seventh degree of *Aquarius*, a signe of the airy triplicitie; and the Sun and Moon in the middle of this obscuration will be in the eighth house of the heavens, as appears by this celestiall Scheme.



The forementioned Eclipſes will be both viſible in our Europæan Hemiſphere: there will be one Eclipſe more of the Sun, and two more of the moon this year, which will not be conſpicuous to us.

The firſt of theſe will be a totall Eclipſe of the moon, happening the 26 of *June* about two in the afternoon; at which time the moon will be under the earth. The time of her totall obſcuration will be about an hour and half: Thoſe who live under the longitude of 156 degrees may ſee it in their meridian; ſuch as the inhabitants of the Kingdome of China and the *Inſulæ Philippinarum*. It will be ſeen alſo in India, Syria, Arabia, Lapland &c.

The ſecond of theſe Eclipſes will be a totall Eclipſe of the Sun, happening upon the eleventh day of *July*, in the evening; and it will be beſt ſeen by thoſe who live under 59 degrees ſouth latitude, in the longitude of 25 degrees; *viz.* in the ſtreights of *Magellanica*, and the Paciſick Ocean.

The laſt will be an Eclipſe of the moon, a very great one, happening upon the one and twentieth day of *December* about ten of the clock before noon; at which time the moon will be very far below our Horizon, and they ſhall ſee it who live under the longitude of 22 degrees, &c. who are our Antipodes, and thoſe who inhabit the *California* and the Gulf of *Mexico*, *Nova Hiſpania*, *Granada*. *Barbados*, the Ilands of *Los Mongos* &c. theſe alſo ſhall ſee it: But becauſe it will be inconſpicuous to us, we ſhall paſſe it by as though we ſaw it not.

A Table shewing the time of the moons coming due South, with the time of her shining, for the finding out the time of full sea, and the hour of the night.

The moons age for her shining.	The moons shining.		The moons age for her southing.	The moons coming due south.	
Dayes	H.	m.	Dayes	H.	m.
1 29	0	48	1 16	0	48
2 28	1	36	2 17	1	36
3 27	2	24	3 18	2	24
4 26	3	12	4 19	3	12
5 25	4	00	5 20	4	00
6 24	4	48	6 21	4	48
7 23	5	36	7 22	5	36
8 22	6	24	8 23	6	24
9 21	7	12	9 24	7	12
10 20	8	00	10 25	8	00
11 19	8	48	11 26	8	48
12 18	9	36	12 27	9	36
13 17	10	24	13 28	10	24
14 16	11	12	14 29	11	12
15 15	12	00	15 30	12	00

To find the Moons shining.

1. You must have recourse to the dyary or Calendar of the 12 months, and right against the day of the month in which you desire to know the time of the moons shining, in the fifth column you shall find how many daies old the moon is; which when you have found, you may enter the first column of this Table, and right against the number of daies for her age you may in the second column find your desire. As for example, *May* 1. I find in the diary that the moons age is 18. I enter the first column of this table with 18, and against it in the second I find 9 h. 36 m. which is the true time of her shining.

To finde the time of the Moons coming full South by the former Table.

Having by the former direction found the age of the Moon in the diary, enter this Table in the third Columne and finde that number, right against which in the last Columne you have the time of her being full South at that time.

Example.

January the 26 I desire to know when the Moon comes due South: I finde her age in the diary to be ten dayes: I then enter the third Columne of this Table, under the title, The Moons age for her Southing; and there I finde 10. right against which in the last Columne I finde 8 hours, which is the time of her coming full South that night.

How by this table of the Moons southing, and the foregoing table of the Suns setting, to find the time of the Moons rising and setting.

First, to finde the Moons setting, you must, if the moon increase, add the hour and minute of her shining to the time of the Suns setting, and the product is the exact time of the Moones setting. But if the Moon decrease, then you must substract the time of her shining from the time of the Suns setting, & the remainder wil be the exact time of the Moons setting. And you must note, that if the time of the Moons shining be more then the time of the Suns setting, you must add 12 hours to the lesser time, that so you may make substraction, which otherwise you cannot.

Secondly, having thus found the time of the Moons setting, you must add those hours and minutes

minutes to the time of the Suns rising, if the Moon be in the increase, and it gives you the time of the Moons arising. But if you finde the Moon in the waine or decrease, then to finde her rising, you must substract the time of her shining from the time of the Suns rising, & the remainder is the time of the Moons rising that day.

Example of this.

January 15 I desire to know at what time the Moon rises and sets; I therefore first find the Moons age in the diary to be nine dayes; with which I enter the Table of the Moons shining, and finde the time of her shining at that time to be 7 hours 24 minutes: Then I look into the Table of the Suns setting, and find that the sun sets that night at 28 minutes after 4 a clock; these two numbers thus found, I proceed, and because the Moon is increasing, I add 7 hours 24 minutes, the time of her shining, to 4 h. 28 m. the time of Suns setting, and the product is 11 h. 52 min. which is the exact time of the Moons setting: And having thus found the time of her setting, I next enquire for the time of the Suns rising on that day, and finde it by the fore-going Rules to be at 32 minuts past seven a clock, and therefore I add these two numbers, the time of the Moons setting, 11 hours 52 minutes, to the time of the Suns rising 7 hours 32 minutes, and they make 19 hours 24 minutes; from which I substract 12, and it gives me 7 hours and 24 minutes for the time of the Moons rising at that time.

A Tide Table, wherein is shewed what Moon makes a Full Sea, and at what hour and minute in any of these places here-under written.

	Moon	h.	m
Quinburough, South-hampton Portſ. Wellens.	So and N.	0	0
Rocheſter Maldon Aberden Redban	So by we.	0	45
Graveſend Romney Tenet Ramkins Downs	So So w	1	30
London Tinmouth Hartle-poole Amſterdam	South weſt	3	41
Barwick Oſtend Scarborough Fluſhing Font	So. w by w	3	5
Frith, Leith Dunbar Narbon Silly Monſh.	vveſt by S.	4	0
Falmouth Foy Humber Newcaſtle Torbay	vveſt by S.	5	15
Lin Antwerp Plimouth Hull	Ea & weſt	6	0
Briſtol Lanion Foulneſſe	Eaſt by So	6	45
Milford Bridgwater Northcoaſt Exwater	E So Eaſt	7	30
Portland Peterport Hareſtew Hague	SoE by E	8	15
Orkney pool S. Hellen Orwell Flee Ebden	South Ea.	9	0
Orford Needles Diepe Lux Lenow Caſtet	S E by S.	9	45
Dover Yarmouth Harwich Dublin Bulloin	So & Eaſt	10	30
Calice Rye VVincheliey Calſhot	Sou by Ea.	11	15

The uſe of this Table by Example.

The 29 of *July* I deſire to know at what time it will be full ſea at *Lin*; firſt I get the time of the moons coming to the ſouth by the preceding table, which I find to be at 2 a clock and 24 min. after noon; then in this table I ſeek for *Lin*, and right againſt it I find Eaſt and Weſt, which ſheweth that an eaſt and weſt moon maketh a ful ſea there; alſo in the third row I find 6 hours, which being added to 2 hou. 24 mi. (the time of the moons coming to the ſouth the ſame day) the ſum will be 8 hours and 24 min. for the time of full ſea at *Lin* the ſaid 29 of *July*. The like may be obſerved of the reſt.

But you are to note, that the tides do not alwaies fall out exactly at the time found in this table, by reaſon of the difference of the moons latitude, boyſtrous winds, landflouds &c. which may cauſe them to err at ſom times from the time here found; but this is the exacteſt Rule that can generally be given for finding them.

How

How to find the hour of the night by the shadow of the Moon upon any Sun-dyall.

First you must know at what time that night you enquire in, the moon comes full south; and for that you must know: That

Dayes after the change or full, the moon is full south at

0	1	2	3	4	5	6	7
12	12 48	1 36	2 24	3 12	4 0	4 48	5 36

Finding (here found) the time of the moons coming south, look upon the Sun-dyal and observe how many hours and min. the shadow wanteth of the line of 12. and then substract those hours and minutes from the time of the moons coming due south, and the remainder is the time of the night. But if the shadow be past the line of 12. then you must add those hours and minutes to the time of the moons coming south, and the product is the time of the night at that time.

The Conclusion.

THe Moon hath many Changes and defects,
This Age hath many changes, many Sects:
He that would bring these changes to a tryall,
Must set his Watch by th' Sun, and not by th' Dyall;
For Artists have mistakes, and so we may
Soon err in following them, and go astray.
The great Director of our wandring hearts
Should be the Book of truth, and then the Arts
Of minds-misleaders (which do now abound)
Could not our steps misguide, our minds confound.
Pardon the Printers faults, and mine (my friend)
And where thou find'st us err, there learn to mend:
For that man never liv'd yet, nor e'r shall,
That did all well, and had no fault at all.

FINIS